

Mimulus Memo



MARCH 2022

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EVENTS

MARCH

3 – Field Trip: Sand Ridge
12 – Field Trip: Hanning Flat
26 – Field Trip: See & Moffat's

APRIL

2 – Field Trip: Blue Rock Spring
16 – Field Trip: Mill Creek
23 – Field Trip: Toll House Ranch
30 – Field Trip: Los Padres Natl. Forest

Book Review

The Forgotten Botanist:

Sara Plummer Lemmon's Life of Science and Art

by Nancy Nies

HAVE YOU EVER WONDERED WHO WAS RESPONSIBLE FOR THE California poppy being named our state flower? If you're like me, you likely never thought much about it, and certainly never dreamed that the designation was once a political issue and that *Eschscholzia californica* became California's official floral emblem in 1903 only after a decade of persistent effort on the part of one determined woman. You'll find that story and much more on this remarkably talented woman's contribution to western botany in **The Forgotten Botanist: Sara Plummer Lemmon's Life of Science and Art** (University of Nebraska Press, 2021).

The author, independent scholar **Wynne Brown**, had, in the early 2000s, discovered that among the holdings of the **University of California** and **Jepson Herbaria Archives** in Berkeley there were six linear feet of field notes, correspondence, photographs, and artwork by **Sara** and husband **John Gill Lemmon**. When Brown was able to see Sara's letters and paintings for herself a few years later, she immediately realized what a

treasure they were and was inspired to write an account of Sara's life. In the course of the seven-year project, Brown photographed all 1,200 of Sara Lemmon's letters and 276 pieces of her botanical artwork. Brown writes that her book proposal filled no fewer than one hundred pages.

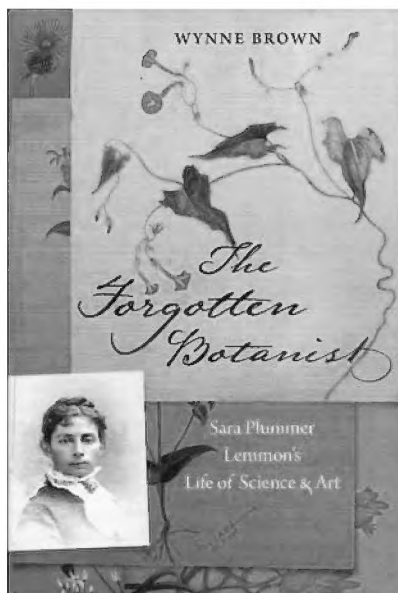
The resulting biography of **Sara Plummer Lemmon (1836-1923)**, published nearly a century after her death, "restores an overlooked luminary of the Southwest to her proper place in history," writes reviewer **Francisco Cantú**,

Book cover featuring Sara Plummer Lemmon's botanical artwork, mainly her watercolor of *Ipomea coccinea* (red morning glory) Painted at Igo Ranch on Sept. 9, 1883



Eschscholzia californica (California poppy), Ring Mountain Preserve, Corte Madera, California April 27, 2018

Photo by Nancy Nies





Sara Plummer, 1865

author of **The Line Becomes the River**. Quotes from Sara's letters, as well as photographs of her beautiful watercolors of native California plants, enliven what Cantú calls "*a vivid account of how one woman overcame great odds to help shape western botany.*"

Sara once wrote her sister, "*It is like death to me to be idle.*" This statement is borne out by all she accomplished, in the face of adversity of one kind or another. Despite suffering from a

litany of illnesses and injuries both before and after her move to California, she in the course of her lifetime wore many hats — that of botanist, of course, but also those of teacher, nurse, librarian, artist, writer, lecturer, journalist, and activist. She established Santa Barbara's first library. She was the first woman to speak before the **California Academy of Sciences**, and became the second female member of that esteemed group. She made hundreds of botanical paintings, most of which are missing—probably lost, Brown speculates, in the fire following the San Francisco earthquake of 1906. Moreover, Sara was a prolific writer of letters — without which **The Forgotten Botanist** could never have been written, and Sara's story could never have been told.

Born in 1836 in New Gloucester, Maine, Sara was sent by her father to the **Ladies' Collegiate Institute** in Worcester, Massachusetts, where she studied algebra and Latin and began her teacher training. From there she moved to Brooklyn, New York, where she earned a teaching certificate from **Greenleaf Female Institute**, and degrees in physics and chemistry from **Cooper Union Institute for the Advancement of Science**. At Cooper Union, Sara was the only woman of eight students to receive a "first grade award" in analytical and organic chemistry.

For years, she juggled studying science during the day, teaching art and physical education at night, and doing volunteer work nursing Civil War soldiers. In 1870, exhausted, plagued by ill health, and needing a warm, dry climate, she decided to leave friends, family, and all else that was familiar, to begin a new life in California. This fateful decision would bring Sara great challenges, such as homesickness, financial difficulties, and near-death experiences. It would also, however, lead her to discover herself — to develop the passion for plants which would become her life's work and to meet the kindred spirit who would become her partner in both botany and life.

Ten years after she moved to California, Sara married botanist **John Gill Lemmon** (known informally as "JG"). The couple spent their honeymoon in Arizona, collecting plant specimens in the Santa Catalina Mountains near Tucson. There, they climbed the highest peak, henceforth called Mount Lemmon in honor of Sara, the first white woman to climb it. Sara and JG would travel and botanize widely in Arizona, California, Oregon, and Mexico. Wynne Brown tells us that "*together the two discovered hundreds of new plant species, many of them illustrated by Sara, an accomplished artist.*" Brown goes on to say that although Sara became a recognized botanical expert and lecturer in her own right, her many contributions to the science of botany were credited only to "*J.G. Lemmon & wife.*" Sara had accepted this for some time, but finally decided she'd been "*too silent for too long.*"

On December 28, 1883, Sara wrote Harvard University botanist **Asa Gray**, often referred to as the father of American botany, that she was "*deeply pained*" and her heart "*too heavy for words*" when the Harvard experts gave her no credit for a species she and her husband had discovered together. Gray evidently "*got the message,*" since the following year he published a huge book, **Synoptic Flora of North America**, which included the description of a tall daisy Sara had discovered two years earlier. He called it *Plummera floribunda*, its genus honoring her maiden name, and Sarah was delighted. Unfortunately, the plant would later be found to be of the genus *Hymenoxys*. Eventually, however, a number of species would bear Sara's name: *Allium plummerae*, *Baccharis plummerae*, *Calochortus plummerae*, *Ipomoea plummerae*, *Lomatium plummerae*, *Stevia plummerae*, and *Woodsia plummerae*.

Asa Gray also wrote, "*Whenever the name of Lemmon is cited for Arizonian plants, it, in fact, refers to this pair*"



Calochortus plummerae (Plummer's mariposa lily)
Franklin Canyon Park, Santa Monica Mountains
National Recreation Area, California Jan. 4, 2007

Photo by Nancy Nies



Castilleja lemmonii (Lemmon's paintbrush), Tenaya Lake area, Yosemite National Park July 21, 2016

of most enthusiastic botanists." Wynne Brown calls Sara "as much a field scientist as JG . . . in fact maybe more, as her field notes are much more decipherable and complete than his." Also, says Brown, it was actually Sara who did most of the botanical work, since JG never completely recovered from the injuries and weakened condition brought on by his service as a Union soldier in the Civil War. John Gill Lemmon himself wrote in 1884, "I believe Mrs. Lemmon has twice the strength and determination that I have." Today, there is a long list of plants that carry the Lemmon name — *Trifolium lemmonii*, *Castilleja lemmonii*, *Asarum lemmonii*, *Salix lemmonii*, *Allium lemmonii*, and *Astragalus lemmonii*, to name just a few. Professor and botanist **Willis Jepson** would later write, "In the [18]80s and 90s if you asked any chance person in California the name of a botanist . . . he would have known the name of Lemmon and only Lemmon."

The Forgotten Botanist is a fascinating read, highly recommended for anyone with an interest in western botany and the women and men who have contributed to knowledge of it. "[Sara Plummer Lemmon's] inspiring story," says Brown, "is one of resilience, determination, and courage — and is as relevant to our nation today as it was in her own time." On November 29, 2021, Brown gave a 45-minute talk on **The Forgotten Botanist** as part of **The Natural History Institute's** speaker series. Her presentation is available here:

<https://www.youtube.com/watch?v=q8YATboZ5UQ>

Wynne Brown's eloquent telling of Sara's life story prompted **Victoria Johnson**, author of **American**

Eden, to write: "The history of botany is filled with intrepid, brilliant women, but few have gotten their due. Wynne Brown has written a lively life of Sara Plummer Lemmon, a brave nineteenth-century botanist who explored the West. She earned the admiration of the great botanists of her day, and she deserves ours as well." ✿



Chapter ZOOM Meetings

upcoming TOPICS

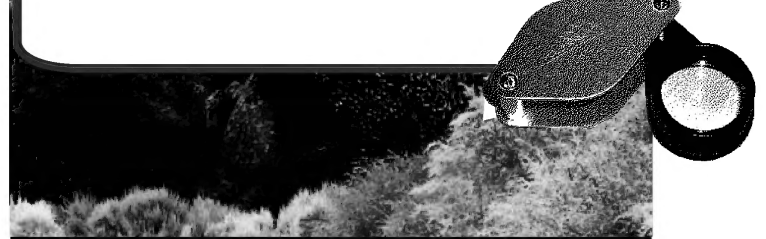
March 2022

No scheduled program

April 2022

No scheduled program

Currently we are in need of suggestions for topics and speakers. Ideas are welcome. Contact **Paul Gipe** (pgipe@igc.org). ✿



CALIFORNIA
NATIVE PLANT SOCIETY

CNPS is the leader for providing reliable information on California native plants and plant conservation. Comprehensive information about California's flora and vegetation communities is available throughout the state for conservation and educational purposes. CNPS's leadership influences personal ethics and actions, as well as public policy for native plant protection.

Bakersfield Cactus Activities

by Lucy Clark

NEAR THE END OF JANUARY, AND THE FIRST of February, groups of CNPS volunteers gathered at the **Nature Conservancy's** new **Randall's Te-**

hachapi Preserve. Many thanks those who planted the pads, harvested from our first outing the previous month. The scars from our cuts had sealed over, and flags marked the planting locations. We buried the bottoms of our cacti in the dirt, and some pads were provided with a number so surveys can be carried out in the future. Water was applied. Cactus expert, **Ellen**, helped TNC's **Zach Principe** with evaluating each as a baseline of health to start our record of this second planting of the rare species *Opuntia basilaris* var. *treleasei*.

The hardy among us dug holes for **Bill's** sprouted blue oak acorns — *Quercus douglasii* — while others wrestled hardware cloth into protective cages. About 10:30 am, the oak planting and numbering began. The scene looked like an ant bed, with large ants hustling around in all directions, work-

ing together or alone to get that work done! Much appreciation for dedication to planting sessions goes to: **Carol, Clyde, Crystal, Diane, Donna, Ellen, Ely, Frank, Jon, Laura, Pat, Saya, and William/Bill.**

The February planting session consisted of five CNPS volunteers planting 30 Bakersfield cacti pads in another close-by grassy location. They also watered their babies. More appreciation and thanks go to **Carol, Crystal, Diane, Ellen, and William.** We also thank TNC's **Rachel Mason** for coordinating all of us and the materials we used.

If you would like to participate with our growing band of helpers at the preserve, please let me know at lucyg391@gmail.com, and I will add you to my email list for scheduled work days. ☘



Alliances: *Juniperus californica* woodland (left) and *Ceanothus cuneatus* shrubland (right).

President's Message: Vegetation Types in the Piute Mountains

by Rich Spjut

MOST OF MY CAREER HAS BEEN DEVOTED to biodiversity sampling of plant species for antitumor screening. Due to the quantity of dried material needed — 0.5–1 kg, which may be divided into root, bark and aerial foliage — the species sampled had to be fairly common. During the 1970s, species that showed anti-tumor activity were routinely re-collected in quantities of 5–50 kg to isolate the active compounds. Back in those days, we did not have **Calflora**, **Calscape**, or the **Consortium of California Herberia (CCH)**, etc. to help determine where to find species in abundance, so I trained myself to recall the abundance of all species I collected in case I was asked to recollect it. Initially about 5% of the species were active, declining by 1980 to about 1% due to predictability of antitumor compounds occurring in families and genera.

My field observation habits have stayed with me even though my biodiversity sampling for biochemical screening has been mostly inactive since 2008. The **Piute Mountains** appear to be exceptionally diverse



Burned *Hesperocyparis nevadensis* woodland looking towards Breckenridge Mountains. White flowers are *Calystegia longipes*. CNPS Chapter Field Trip 6-2-2013



in the chaparral and woodland vegetation types.

In the last newsletter, I mentioned the *Garrya flavescens* alliance along **Saddle Springs Road**, which follows a ridge on the northern slope of Piute Mountain. The species is mentioned in **A Manual of California Vegetation** (2nd ed.) only in associations under other alliances, which on Piute Mountain would be with *Arctostaphylos viscida* (as *A. glauca*). Another is *Fremontodendron californicum* which is closely associated with *Garrya* and/or *A. viscida*, mentioned in the vegetation manual in association with either *Ceanothus vestitus* (as *C. greggii*), *Cercocarpus betuloides* (as *C. montanus*). Other alliances on the northern slope going from lower to higher elevations are *Ceanothus cuneatus*, *Quercus douglasii*, *Juniperus californica*, *Hesperocyparis nevadensis*, *Cercocarpus betuloides*, *Ceanothus vestitus*, *Quercus garryana*, *Arctostaphylos viscida* ssp. *mariposa*, *Abies concolor*, and *Pinus jeffreyi*. Many other species can be found in localized abundance such as *Ephedra viridis* and *Turricula parryi*, while others occur more often along road margins such as *Eriophyllum* and *Eriodictyon*. A number of rare species also occur within alliances. They include *Perideridia pringlei* in the California juniper woodland, *Sidalcea hickmanii* ssp. *parishii* in the Piute cypress woodland, *Eriogonum breedlovei* var. *breedlovei* and *Frasera tubulosa* in the Jeffrey pine woodland near Piute Peak. 🌸



Mixed montane chaparral just south of Eagle Rock (Peak) with *Arctostaphylos viscida*, *Ceanothus vestitus*, *Cercocarpus*, *Fremontodendron*, *Garrya*, and *Quercus garryana*. Although *Hesperoyucca whipplei* is conspicuous by its flowering stalks, they are not factored into what determines the dominant species for alliance classification, but it would be treated as belonging to the association because of its obvious frequent presence.



Arctostaphylos glandulosa, present in montane chaparral but not characteristic.

The **Piute Mountains** appear to be exceptionally diverse in the chaparral and woodland vegetation types.



Fremontodendron californicum shrub woodland regenerating after fire.



Arctostaphylos viscida ssp. *mariposa* shrubland. Plant with burl-like base regenerating apparently from seed but see following image.



Arctostaphylos viscida ssp. *mariposa* shrubland nearby showing thickets of shrubs scarcely burned. No sprouting evident.

Crafting with Native Plants: Solar Printing

by Sasha Honig

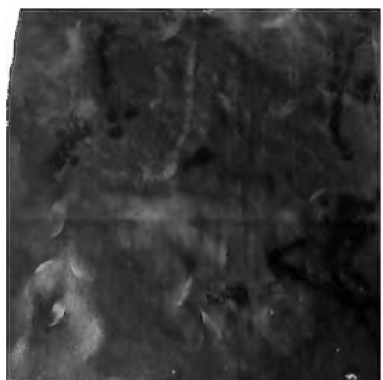
THIS A GOOD ACTIVITY FOR KIDS OR, AS they say, kids of all ages. All you need are some leaves or flowers, a piece of fabric, a large piece of corrugated cardboard, fabric paint and sunshine.

The fabric can be cotton or a synthetic, but white is the best color. That way the leaves or flowers will stand out.



I used *salvia* from our garden in the photos here but you can use any kind of leaves — blades of *muehlenbergia*, whole flowers or their petals. A scattering of berries such as toyon along with the plant's leaves would be attractive. Have a supply of straight pins ready to pin down anything that might blow away if

the day is breezy. For the sharpest images pins are handy too for flattening curled-up leaves or whole flowers that need to be in direct contact with the cloth.

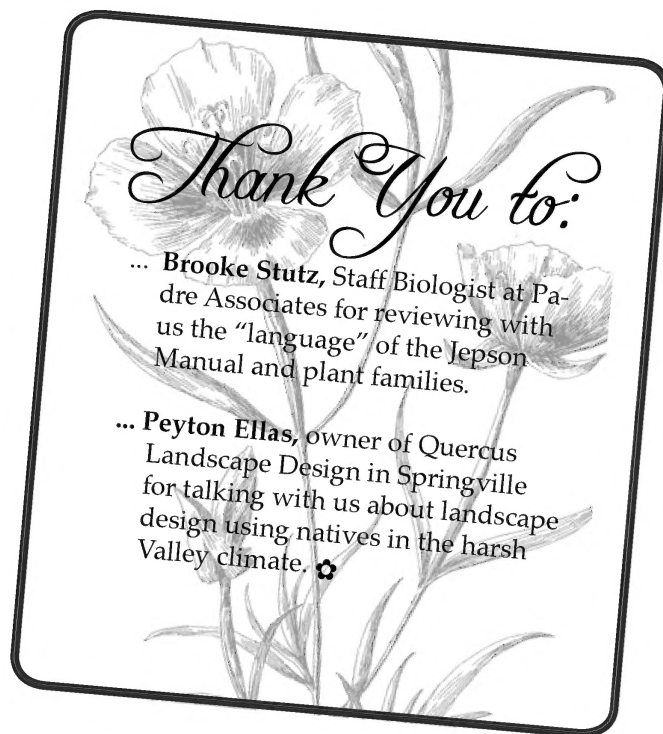


The result after 20 minutes of exposure to the sun.

Solar printing is fun and easy to do on bandannas or napkins because they are flat and small. A quilter could custom-design patches for a quilt. An adventure would be solar printing within a taped-off square or triangle shape on a T-shirt (with protective cardboard inside to prevent paint leaking onto the shirt back.)

Directions:

- Gather leaves, flowers, etc.
- Iron fabric to remove wrinkles as wrinkles can cast shadows. Place fabric on cardboard, and pin down so that it is taut.
- Choose two or three paint colors and apply them generously to the cloth. Choose a paint that includes solar printing among its uses. I like **Dye-Na-Flow** paint because it leaves a soft feel, not stiff and scratchy, and is washfast. It comes in nearly two dozen colors. I do not know if it is available in local craft stores; I get mine online. There is a product called **Solar Fast** but the available colors are limited and rather dull in my opinion.
- Paint your fabric with the light-sensitive dye indoors and out of direct sunlight.
- Arrange leaves etc. on the wet surface and use straight pins to keep things in place and to get the best contact between leaf and cloth. The tighter you pin them to the fabric the sharper the edges will be and the looser, the softer the edges.
- Carefully carry the fabric outside, on its cardboard support and set it in a bright sunny spot. It should be ready in 15 or 20 minutes, especially if it is one of our Bakersfield scorchers. However, it is possible to get pleasing results even if the sky is somewhat overcast; that was true of the print pictured in this article.
- Remove the pins, blow off the vegetation, and your item is good to go. ✿



Botanical Yard Signs

Plant Signs, <https://plantsigns.com/>, offers botanical yard signs to order. They will send a free sample upon request. You can also download their brochure to read off line. 1.5 x 3-inch signs are \$6.00 each, 2 x 4-inch signs are about \$8.00 each. Signs are made to order and require purchase of metal stakes as well as the engraved sign itself. ✿

2022 Kern CNPS FIELD TRIPS

by Paul Gipe & Patty Gradek



KERN CNPS FIELD TRIPS ARE OPEN to ALL. We welcome you to join us to see and learn about our native plants and their habitats, to learn to identify plants, or to photograph them. If you are skilled in plant identification, you can help us all learn.

Please dress in layers, wear boots or shoes you can hike in and bring food and water. You may also want to bring a hat, sunscreen, binoculars, cameras, plant list and useful references such as **Kern County Flora** and the **Jepson Manual**, or any book you like.

Covid-19 Precautions:

Because of Covid-19, you will not be required to carpool. You may carpool if you choose to but feel free to drive on your own or just with your family or friend group, if you prefer.

By Reservation Only:

All trips are by reservation only, so we know whom to expect, and how many will be attending each field trip. Because there will be no car pooling, the number of vehicles and hence participants may be more limited than in the past.

Please e-mail **Patty Gradek** or **Paul Gipe** **at least two days before the field trip** and indicate the names of those who will attend.

Patty Gradek: pattygradek@gmail.com

Paul Gipe: pgipe@igc.org
(661) 325-9590.

DATE	PLACE	ORGANIZER
March 3, 2022	Sand Ridge, Bakersfield	Paul Gipe
March 12, 2022	Hanning Flat, Kernville	Maturango Museum
March 26, 2022	Deb See & Bill Moffatt's, Keene California	Bill Moffatt
April 2, 2022	Blue Rock Spring, Ventucopa (Rte 33 & Quatal Canyon)	Pam DeVries
April 16, 2022	Mill Creek, Old Kern Canyon Road	Paul Gipe
April 23, 2022	Toll House Ranch, Nature Conservancy, Caliente, CA	Zach Principe
April 30, 2022	Hiking & Flower Highlights of the Los Padres National Forest	Pam DeVries

IMPORTANT:

If your or your party's plans change and you will not be attending, it is critical for safety and planning that you call or e-mail the contact person and let them know you will not be there.

We will provide more details on the location, where we will meet, and what to expect on the field trip only to those who plan to participate.



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The Kern Chapter of the California Native Plant Society currently meets the third Thursday of each month via Zoom:
Chapter website: kern.cnps.org

The California Native Plant Society is a non-profit organization dedicated to the conservation of California native plants and their natural habitats, and to increasing the understanding, appreciation, and horticultural use of native plants.

CNPS has 31 chapters throughout the state and membership is open to all persons – professional and amateur – with an interest in California’s native plants. Members have diverse interests including natural history, botany, ecology, conservation, photography, drawing, hiking and gardening. As a Kern County resident, your membership includes **Flora Magazine**, a quarterly journal with interviews, conservation updates, gardening advice. **Artemesia**, CNPS’s scientific journal and **The Mimulus Memo**, the Kern Chapter newsletter published quarterly.

Join CNPS or renew your membership online at cnps.org
Membership levels: \$25, \$50, \$120, \$500 (\$25 minimum)
 Go Perennial at \$5/ month

To **unsubscribe/subscribe** to Kern CNPS email communications members should contact: *membership@cnps.org* (916) 738-7604

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Mimulus Memo



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